



## *X-Plain™* **Diabetes - Footcare** **Reference Summary**

Patients with diabetes are more likely than others to have problems with their feet. These problems can lead to dangerous infections of the foot. Recognizing and treating foot problems early can help diabetic patients avoid serious complications.

This reference summary explains how diabetes affects the feet. It also explains what you can do, if you have diabetes, to help prevent serious complications.



### **A Healthy Foot**

Healthy feet are strong and flexible. They allow us to walk and run as they support the weight of the whole body. The bones and joints of the foot help absorb pressure from the body's weight. The skin and fat of the feet are the first barrier to prevent infections from entering the inner parts of the foot where it may spread to the rest of the body.

Normally, if we injure our foot or if an infection sets in, the affected area starts hurting. The pain alerts us to this possibly dangerous condition. Once we feel the pain, we know to clean the affected area and prevent it from getting injured again. The body also starts

fighting any infection with special cells that can kill harmful germs.

Infection-fighting cells and tissue-repairing cells reach the infection through the bloodstream. Blood vessels also carry food and oxygen needed by the tissues of the foot.

### **How Diabetes Can Affect the Feet**

Diabetes affects the feet in two ways. It can cause nerve damage and it can cause hardening of the blood vessels.

Because of the abnormal increase of blood sugar in the blood, nerves of the body can be damaged. This is known as "diabetic neuropathy." Diabetic neuropathy mainly affects the nerves that supply sensation to the feet. This decreases the feeling of pain in the feet.

Because of this, a diabetic patient may not feel a small cut or a blister.



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An untreated cut could become infected, leading to gangrene. Gangrene is a serious infection, which, if not treated, could require an amputation, or cutting off, of part of the foot or the leg to save the rest of the lower extremity. A feeling of numbness or tingling in the foot may mean that the nerves are damaged.

Diabetes can also affect the blood vessels of the feet, causing them to narrow. This is known as “diabetic vasculopathy.” Narrow blood vessels carry less blood to the feet. A cold, blue, or pale foot may mean that the foot has poor circulation. With less blood, the foot will not have enough oxygen and nutrients to heal and fight infections.



If the foot receives less nutrients and oxygen, the bones and joints weaken, causing the foot to become flatter. This creates new pressure areas that cause the skin to break down. When both the nerves and arteries are damaged, the diabetic patient might not notice simple wounds, which can soon become serious infections that can threaten the whole foot and even the leg. If not stopped, the infection can threaten the whole body.

Redness, swelling, and increased temperature in the foot are signs of infection.

## Preventing Foot Problems

Controlling diabetes by managing the level of blood sugar helps to delay or prevent the foot problems associated with diabetes.

This is the most important way the diabetic patient can prevent foot complications.

In addition to controlling blood sugar levels, diabetic patients should

- Take daily care of their feet, such as washing them, trimming toenails, and inspecting them carefully for signs of injury or infection.
- Wear the proper footwear.
- Prevent injury to their feet.
- Visit their healthcare provider regularly.

## Daily Foot Care

If you are a diabetic patient, checking your feet daily helps you notice small problems before they become serious complications. The following are essential tips:

- Inspect your feet every day. Look between your toes. Check for any cracks, blisters, scratches, cuts, redness, or swelling. If you cannot see the bottom of your feet, use a hand mirror.
- Wash your feet every day using mild soap and warm water.
- Dry your feet carefully, especially between the toes.
- Apply lotion to dry or cracked skin and to soles of feet. Do not put lotion between toes.

- Call your nurse or doctor immediately if you have any signs of infection such as swelling, redness, drainage, fever, or chills.

### Regular Foot Care

Keep toenails neatly trimmed. After soaking your feet or after a bath or shower, cut the nails with the shape of your toes so they are even with the skin on the end of your toes. Avoid cutting down into the corners.

Never cut skin on the end of your toes.

If you have trouble seeing, have someone help you trim your toenails. If your toenails are thick, you may need them trimmed by a doctor or a nurse.



Report to your nurse or doctor signs of ingrown toenails, such as redness, drainage, or swelling. Corns are thick or hard skin on toes, and calluses are thick skin on the bottom of feet. If you have corns or calluses, tell your doctor or nurse. Do not try to cut them off yourself.

### Footwear

The right shoes and socks can protect the feet and keep them healthy by preventing corns, calluses, and injuries. Here are some tips:

- Wear comfortable shoes that fit your feet. The toe end should allow all toes to wiggle.
- Avoid open-toe or open-heel shoes.
- Wear clean socks. Change them every day. Avoid bumpy socks or socks with tight elastic.



### Preventing Injury To The Feet

People with diabetes should take extra precautions to avoid injuries to their feet because they may not feel pain in their feet. Here are some tips:

- Never walk barefoot.
- Check the inside of shoes before putting them on. Small objects, nail points, and torn linings create pressure points that can lead to irritation or infection.
- Be careful when your feet come in contact with hot objects. Burns may occur without your feeling them. Before washing your feet with warm water, check the water temperature with your hand or elbow.
- Avoid exposure to the sun without the protection of sunscreen lotion.

### Regular Checkups

You should also check with your healthcare provider or podiatrist regularly. A podiatrist is a doctor specializing in foot care.

Ask your doctor or nurse to check your feet.

Do not remove corns yourself. Let your doctor or nurse take them off. Similarly, let your healthcare provider remove your calluses.

When found early, foot problems can be treated by washing and applying topical medications. Minor infections can be treated

with regular cleaning and antibiotics. When not treated early, minor infections can become severe. Severe infections may spread to the bones and travel to the legs.

To treat such infections, surgery may be recommended.

## **Summary**

Foot problems are common complications of diabetes. Fortunately, they can be delayed or prevented through successful control of the blood sugar level and good foot hygiene.

Controlling diabetes depends on managing the blood sugar level, eating right, and exercising. Good foot hygiene consists of daily foot care, proper footwear, avoiding injury to the feet, and regular checkups with healthcare providers.

The successful control of diabetes and good foot hygiene depends mostly on the patient. Millions of others have lived healthier and longer lives by taking control of their diabetes.

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